

Claims

1. A brake disk for a disk brake, in particular for
5 motor cycles or bicycles, comprising a brake band
of a first material which has a high heat
resistance and an inner part (20) of a second
material which has a lower density than the first
10 material, the brake band having a plurality of
extensions (11) and the inner part (20) having a
plurality of extensions (21), which in each case
are arranged in pairs bordering one another, and a
plurality of connecting elements (30) which
15 connect the brake band (10) to the inner part (20)
by being received in recesses (13, 23) formed in
the extensions (11 and 21), wherein the recess
(23) is formed in such a way that the connecting
line (51) between the ends of the recess (23) is
20 at an angle α of from 15 to 85° to the tangential
direction (50).
2. The brake disk as claimed in claim 1, wherein the
angle α is from 20 to 60°, preferably from 25 to
40° and particularly preferably approximately 30°.
- 25 3. The brake disk as claimed in either of the
preceding claims, wherein that end (231) of the
recess (23) which is at the front in the direction
of rotation (40) during forward travel is a
30 smaller distance away from the center of the brake
disk than that end (232) of the recess (23) which
is at the back in the direction of rotation (40)
during forward travel.
- 35 4. The brake disk as claimed in any of the preceding
claims or the preamble of claim 1, wherein that
section (221) of the edge (22) of the extension

(21) which is before the recess (23) in the direction of rotation during forward travel is at an angle β relative to the tangential direction, that end of the region (221) which is at the front in the direction of rotation (40) during forward travel being a smaller distance away from the center of the brake disk than that end of the region (221) which is at the back in the direction of rotation (40) during forward travel.

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5. The brake disk as claimed in any of the preceding claims or the preamble of claim 1, wherein that section (222) of the edge (22) of the extension (21) which is behind the recess in the direction of rotation during forward travel is at an angle γ to the tangential direction, that end of the section (222) which is at the front in the direction of rotation (40) during forward travel being a smaller distance away from the center of the brake disk than that end of the section (222) which is at the back in the direction of rotation (40) during forward travel.

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6. The brake disk as claimed in claim 5, wherein the angle γ is greater than the angle α .

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7. The brake disk as claimed in claim 6, wherein the angle γ substantially corresponds to the angle α .

8. The brake disk as claimed in either of claims 6 and 7, depending on claim 4, wherein the angle γ is greater than the angle β .

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9. The brake disk as claimed in either of claims 6 and 7, depending on claim 4, wherein substantially the angle γ corresponds to the angle β .

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10. The brake disk as claimed in any of the preceding claims or the preamble of claim 1, wherein the recess (23) encloses the connecting element (30) in an angular range of more than 180° and preferably of more than 181°, 185°, 190° or 195°.
11. The brake disk as claimed in claim 10, wherein the angular range is from 185 to 300°, preferably from 190 to 270° and in particular approximately 200°.
12. The brake disk as claimed in any of the preceding claims, wherein the connecting elements (30) are bolts (31) and/or rivets.
13. The brake disk as claimed in any of the preceding claims, wherein the brake band (10) is formed from steel.
14. The brake disk as claimed in any of the preceding claims, wherein the brake band (10) is corrugated.
15. The brake disk as claimed in any of the preceding claims, wherein the brake band has holes (14) which are preferably in the form of slots.
16. The brake disk as claimed in any of the preceding claims, wherein the inner part (20) is formed from light metal or a light metal alloy, in particular from aluminum, an aluminum alloy, titanium, a titanium alloy, a magnesium alloy or another suitable light metal alloy.
17. The brake disk as claimed in any of the preceding claims, wherein the inner part (20) has an inner ring (25) for fixing on a hub.

18. The brake disk as claimed in any of the preceding claims, wherein the extensions (21) of the inner part (20) have in each case a strut (211) which is at the front in the direction of rotation during forward travel and in each case a strut (212) which is at the back in the direction of rotation during forward travel.
19. The brake disk as claimed in any of the preceding claims or the preamble of claim 1, wherein the extensions (21) of the inner part (20) have in each case a strut (212) which is at the back in the direction of rotation during forward travel and which is oriented in such a way that the rear strut (212) lies substantially in the braking force direction occurring during braking during forward travel.